UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/523,615	03/13/2000	Yang Cao	Cao-7	6571

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EXAMINER
VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4, 7-15 and 29-41* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 7-15 and 29-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1 and 15 have been considered but are moot

in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1, 2, 7-10, 12-15, 29-31, 34-37, and 39-41 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Oliva et al. (US 6,654,802) in view of Chao et al. (US 6,549513).

Regarding claims 1, 15, 29 and 30, Oliva discloses a system that includes network

elements (22 and 24) that comprise nodes, wherein each node has multiple ports (26) (col. 4,

lines 19-65). A unique port identifier is stored in each network element for each port, and this

identifier distinguishes that port from any other port on the network (col. 4, line 66 – col. 5, line

5). Upon connection of network elements (22 and 24), the source node transmits data to the

destination node, and either network element (22 or 24) may comprise the source, while the other

comprises the destination (col. 5, lines 16-20). Each source port (26) transmits the network

element and port identifiers using transport overhead bytes (col. 5, lines 32-38). These transport

overhead bytes represent the out of band channel of the present invention since they do not

reduce the bandwidth available for payload data. The system also includes a management

system for storing and determining the topology of the network, wherein either network element

(22 or 24) may comprise the management system. The management system requests transfer of

the identifiers (col. 5, line 59 – col. 6, line 4). Thus, either network element (22 or 24) may act

as the management system and request port identifiers from the other network element. Oliva

also discloses that network (40), which operates similarly to the embodiment described above,

may operate pursuant to the SONET standard or SDH. Also, other standards such as ATM may

be modified to include topology information in the overhead to operate according to the

invention (col. 7, lines 41-46). Network elements operating according to the different standards

mentioned above represent different types of network elements. Oliva fails to expressly disclose

sending a port detection signal in response to receiving port identifiers. Oliva also fails to

expressly disclose using different types of network elements in the same system. Chao discloses

sending a confirmation message from one node (12) to another node (18) after receiving link

information from the node (18) between ports on a bi-directional link (col. 15, lines 40-61). At

the time the invention was made, it would have been obvious to a person of ordinary skill in the

art to send a confirmation message, representing the port detection signal of the present

invention, after receiving port identifier information from a source port in the invention of Oliva.

At the time the invention was made, it would have been obvious to a person of ordinary skill in

the art to include different types of network elements in the same system, such as SONET and

ATM, which Oliva discloses would be possible by suggesting the modification of ATM to

include transport overhead. One of ordinary skill in the art would have been motivated to send

the confirmation message to the source port to acknowledge receipt of the port information and

notify the source port that the destination port was ready to receive information. One of ordinary

skill in the art would have been motivated to use two types of elements in order to support a

heterogeneous network that provides interoperability.

Regarding claims 2, 7, 14, 31, 34 and 41, Oliva discloses that any of the network

elements may operate as a management system, which represents the leader NE of the present

invention (col. 5, line 67 – col. 6, line 4). As described above, one network element may request

port identification from another network element acting as the management system. The port

identification information sent in response to the request represents the port binding information

of the present invention. Oliva also discloses the network may operate according to the SONET,

SDH or ATM standard (col. 7, lines 42-47). Thus, it is possible that elements of the same type,

SONET for instance, may send a request to another element of that same type, which would

represent the first type of the present invention.

Regarding claims 8 and 35, Oliva discloses that the system may operate according to the

SDH standard, in which case the first type of NE may be an SDH NE (col. 7, lines 44-45)

Regarding claims 9, 10, 36 and 37, Oliva discloses that the system may operate according

to the ATM standard, which is a packet switching technology. In that case, the first type of NE

may be an ATM NE (col. 7, lines 45-47).

Regarding claims 12 and 39, Oliva discloses that the management system, which may be

embodied in a network element, may periodically check or receive identifiers from the various

network elements (col. 5, lines 63-67). As mentioned above, each identifier is associated with a

different port on a different network element.

Regarding claims 13 and 40, Oliva discloses storing port binding information at each

network element in a memory (col. 4, line 66 – col. 5, line 5).

4.   Claims 3, 4, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

(US 6,654,802) in view of Chao et al. (US 6,549513) as applied to claims 1, 2, 7-10, 12-15, 29-

31, 34-37, and 39-41 above, and further in view of Au (US 6,473,397).

Regarding claims 3, 4, 32 and 33, the system provided by Oliva et al. in view of Chao et

al. fails to expressly disclose a port identification request queue. Au discloses a system of

interconnected nodes that communicate with each other by using a number of ports (Figure 5).

Au also discloses that each of the ports comprises a queue (col. 8, line 60 – col. 9, line 4). Every

cell received at a port enters the queue for that port. At the time the invention was made, it

would have been obvious to a person of ordinary skill in the art to use ports comprising a queue

to receive the port identification requests in the system provided by Oliva et al. in view of Chao

et al. One of ordinary skill in the art would have been motivated to do this to avoid dropping

requests if multiple requests were received at a particular port.

5.   Claims 11 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US

6,654,802) in view of Chao et al. (US 6,549513) as applied to claims 1, 2, 7-10, 12-15, 29-31,

34-37, and 39-41 above, and further in view of Tounai et al. (US 5,870,382).

Regarding claims 11 and 38, the system provided by Oliva et al. in view of Chao et al.

fail to expressly disclose that the port detection signal is a SONET/SDH protection switching

message. Tounai discloses using K1 and K2 bytes for performing switching control (col. 4, lines

33-42). These K1 and K2 bytes represent the SONET/SDH protection switching message of the

present invention. At the time the invention was made, it would have been obvious to a person

of ordinary skill in the art to use the K1 and K2 bytes of Tounai as a port detection signal in the

system provided by Oliva et al. in view of Chao et al. One of ordinary skill in the art would have

been motivated to do this to provide port connection information when a line switch was being

made due to link failure.

Conclusion

6.   Any inquiry concerning this communication, or earlier communications from the

examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and

fax number is 703-746-9467. The examiner can normally be reached between 8:30am and

6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating

to the status of this application or proceeding should be directed to the receptionist whose

telephone number is 703-305-4750.

Thomas E. Volper

TV

February 8, 2004

**HUY D. VU
SUPERVISORY PATENT EXAMINER
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